DOCUMENT RESUME

ED 035 406 JC 700 014

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TITLE Criteria for Public Investment in the Two-Year College: A Program Budgeting Approach.
PUB DATE [69]
NOTE 26p.

EDRS PRICE EDRS Price MF-$0.25 HC-$1.40
DESCRIPTORS *Cost Effectiveness, *Income, *Junior Colleges, *Labor Force

ABSTRACT

Junior colleges are organized and controlled in three ways: by the county, by the public school district, or by the state. Little or no tuition, location within commuting distance, and an "open door" admissions policy means that many students can continue their education beyond high school. Further expansion of junior colleges will require allocation of substantial public funds. Benefit/cost analysis is one approach that can be used to facilitate decisions on the commitment of public funds. This study presents a benefit/cost analysis of a large, representative junior college. Enrollment figures and annual costs and benefits are given. Costs are estimated over 20 years, benefits over 40 years. The economic value of a junior college education is discussed in terms of wages earned by graduates and in qualitative terms. In view of the special characteristics of the junior college student body--such as lower income and a higher percentage of non-whites--completion of the 2-year program may lead to greater secondary benefits for the students and the community. (MS)

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CRITERIA FOR PUBLIC INVESTMENT IN THE TWO-YEAR COLLEGE: A PROGRAM BUDGETING APPROACH

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I. Introduction

Public junior colleges, also known as community or two-year colleges, have greatly expanded both in numbers and in student enrollment over the past few years. Community colleges have increased in number from just under 300 in 1958 to almost 500 by 1967. Student enrollments over the same period have tripled, totaling over one million students in 1967 [16]. Expectations are for this growth to continue over the next decade, reaching over 1.5 million students by 1970 [4].

Funds to support the community college are obtained primarily from public sources. Capital funds are provided, in most cases, from a combination of local and state participation with some assistance from the Federal Government. The capital investments required are generally estimated to fall between $3,000 and $4,000 per full-time student. On this basis, the increase in student enrollments between 1957 and 1968 is estimated to have required a public investment of over 2.5 billion dollars. Operating costs in recent years have tended to average around $1,000 per full-time student per year. Total operating costs for public junior colleges in 1967 exceeded one billion dollars, the greater portion of which was provided by local and state tax revenues.

Community colleges appear to be substantially different from most four-year colleges and universities in their objectives, their purpose, and in many instances, in the socio-economic characteristics of the student body. They are organized and controlled in one of three ways: by a district-usually a county; by one or more public school districts, or by the state. These institutions therefore tend to focus more sharply on educational needs of the community in which

TABLE I

FALL 1968 FRESHMAN ENROLLMENT
BY FAMILY INCOME

	Less than $4,950		$4,950-7,970		$7,970-11,580		Over $11,580	
	Fall 1968 Enrollment	More or less than expected	Fall 1968 Enrollment	More or less than expected	Fall 1968 Enrollment	More or less than expected	Fall 1968 Enrollment	More or less than expecte
Public Two-year Colleges.....	50,000	+ 27,000	96,000	+ 39,000	106,000	+ 35,000	103,000	+ 5,000
Private Two-year Colleges.....	9,000	+ 4,000	21,000	+ 6,000	25,000	+ 8,000	34,000	+ 8,000
Public Four-year Colleges.....	42,000	+ 17,000	74,000	+ 15,000	91,000	+ 25,000	99,000	+ 26,000
Four-year Nonsectarian Colleges.	9,000	+ 3,000	14,000	+ 1,000	22,000	+ 4,000	58,000	+ 4,000
Four-year Sectarian Colleges....	15,000	+ 2,000	28,000	- 10,000	40,000	- 13,000	63,000	- 48,000
Public Universities.....	27,000	+ 10,000	61,000	+ 7,000	101,000	+ 22,000	159,000	+ 20,000
Private Universities.....	4,000	+ 1,000	10,000	0	20,000	+ 3,000	52,000	- 1,000
Technical Institutes.....	2,000	+ 1,000	6,000	+ 1,000	13,000	+ 1,000	19,000	+ 3,000
All Institutions*.....	159,000	+ 66,000	311,000	+ 61,000	420,000	+ 91,000	583,000	+ 12,000

*Figures do not add up exactly because of rounding.

Source: U.S. Office of Education as reported in The Chronicle of Higher Education, March 10, 1969.

they are located. Little or no tuition, and location within commuting distance are characteristics which make it financially feasible for large numbers of students to continue their education beyond the high school. The data on family income for Fall 1968 freshmen shown in Table I support the notion that public two-year colleges provide educational opportunities to low income families. Of the total freshmen enrollment from families whose income fell below $7,970, almost one-third attended community colleges, while 25 percent went to public four-year colleges, and just under 20 percent enrolled at public universities. Freshmen enrollments in 1968 from this income group exceeded 1966 projections by abou 127,000, over half of which were accommodated by public two-year colleges. The income distribution for students enrolled in two-year public colleges is skewed to the right of the general population, but less so than for any other institution of higher education.

[Put Table I here].

In addition to serving different income groups, most community colleges, through an "open door" policy, provide opportunities for continued education to those who have not performed well in high school. Many community colleges offer developmental programs which enable students to overcome deficiencies in their educational background. Efforts are directed many times towards fulfilling the educational needs of adults by offering programs that go beyond the standard evening credit offerings. Emphasis on continuing education is another characteristic of the community college.

Most community colleges offer programs of study that can be divided into at least two categories: those designed to permit transfer

to a four-year college and those that provide the education and skills for immediate job entry upon graduation. No clear cut evidence is available on how well transfer students fare at four-year institutions. Knoell and Medsker found great variation in transfer success, i.e., graduation with a bachelor's degree, depending on such factors as the quality of the two-year college and the field in which the baccalaureate degree is pursued. [8]. On the average, perhaps 80 percent of the transfer students will receive a bachelor's degree within four years.

Attrition rates within two-year colleges are much higher than within four-year institutions. This is hardly surprising in view of the much greater risks in student admissions in the former. In a study covering over 17,500 students in 63 public and private two-year colleges, Medsker reported attrition ranging from 27 percent to 89 percent, with the median 68 percent [9].

Continued expansion of these institutions and the programs they offer will require allocation of substantial amounts of public funds. Policy planners have had little evidence to date by which the existing level of public investment could be evaluated, or which would provide a guide for future decisions. The intrinsic values of a higher education, which most individuals in our society hold, do not provide much assistance to public policy makers. Benefit/cost analysis is one approach used to provide assistance in reaching decisions on the commitment of public funds. As a technique, it relies as much on subjective assumptions and interpretations as it does on analytic theory. Its shortcomings have been subjected to much criticism, especially when applied to evaluate the worth of education [2]. Yet, benefit/cost analysis can serve as a starting

FIGURE 1

20—YEAR PROJECTION OF FULL TIME STUDENT ENROLLMENTS

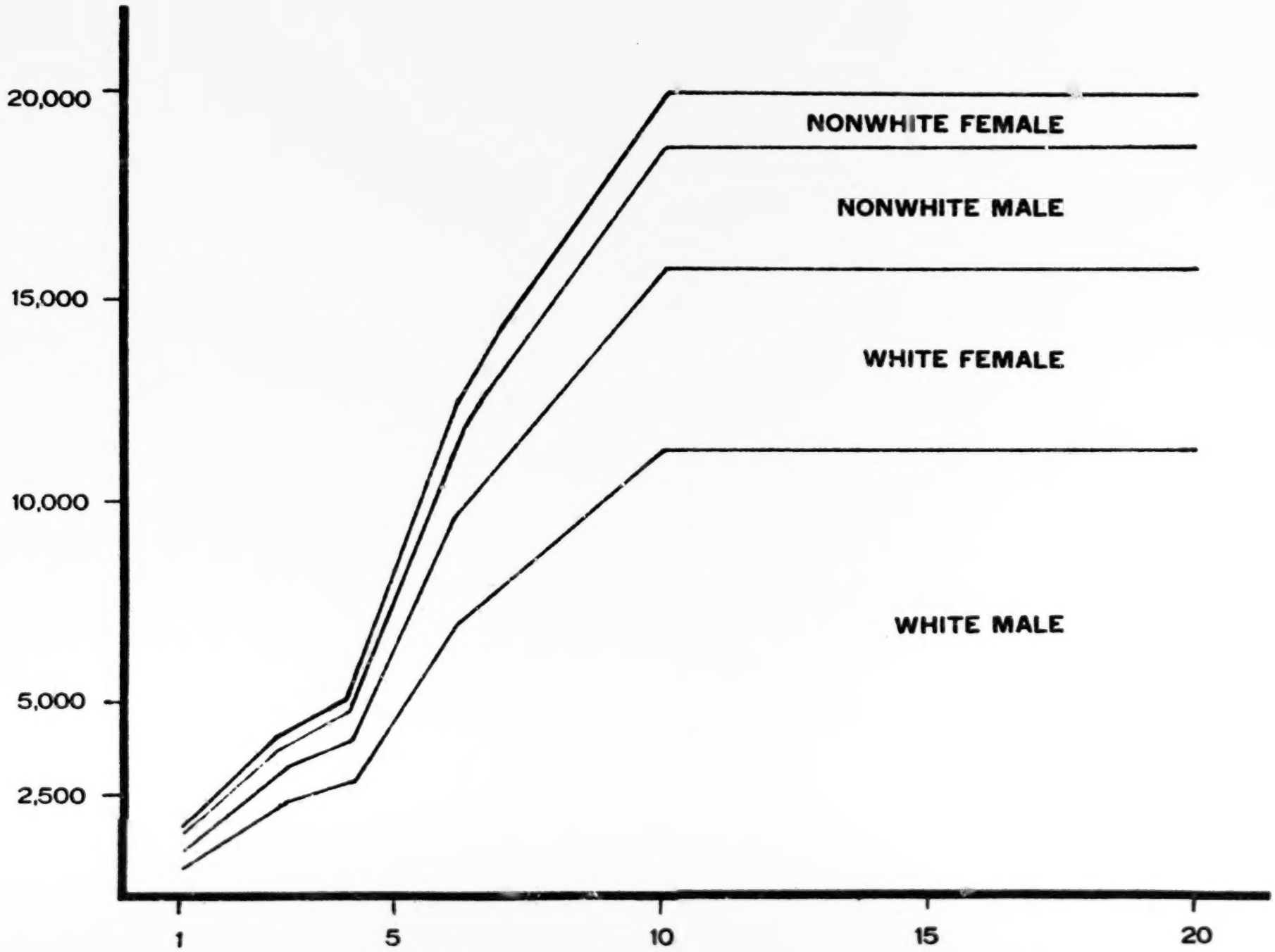
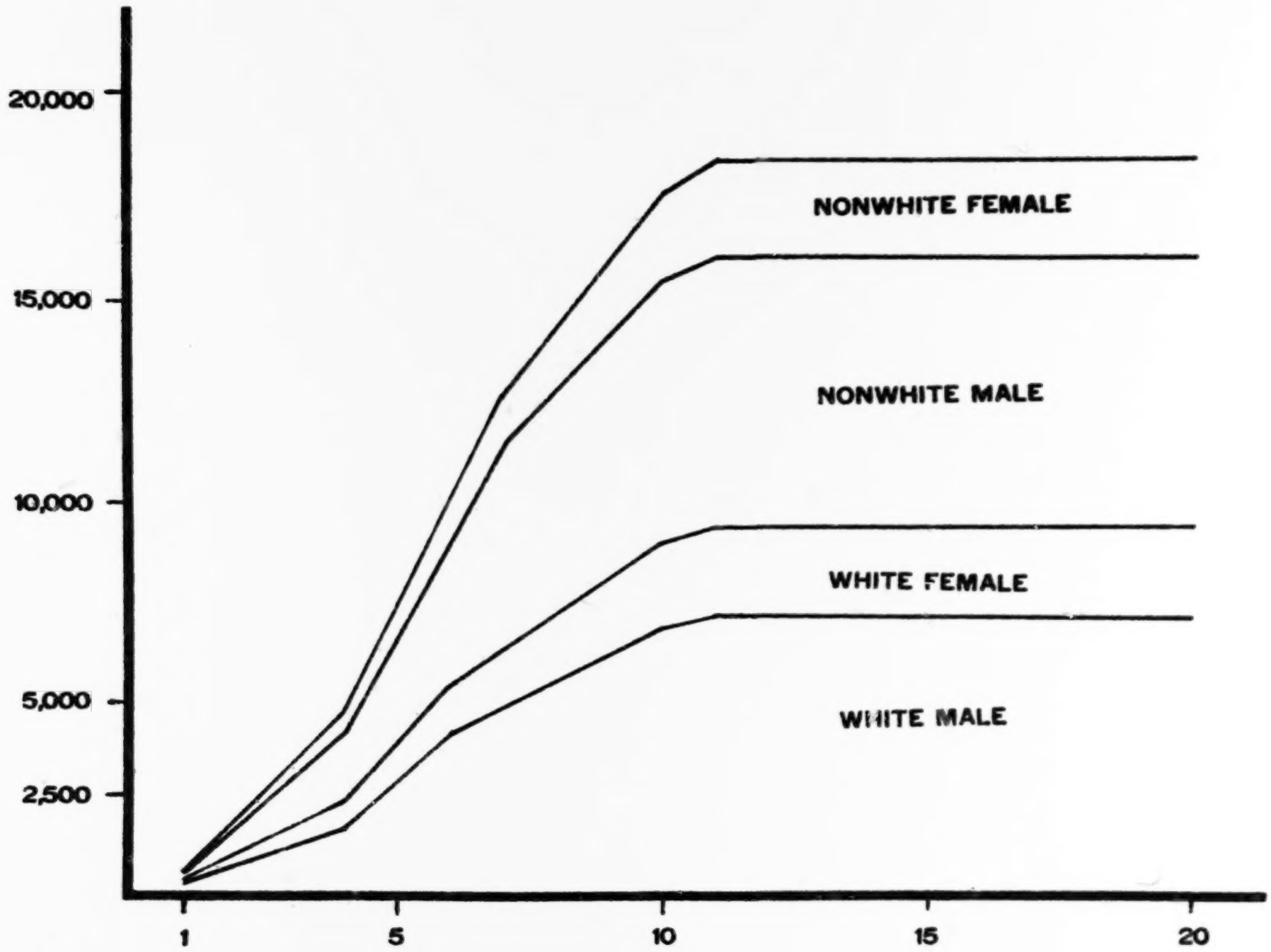


FIGURE 1

20—YEAR PROJECTION OF PART—TIME STUDENT ENROLLMENTS



point for rational decisions on the commitment of public resources.

The purpose of this study is to make a benefit/cost analysis of a large representative community college, located in a major urban center. This college system is one of the more ambitious programs being undertaken in the country. In 1965, voters approved a referendum establishing a system of community colleges within the county. By the Fall of 1966, classes began at two colleges, located in different parts of the county. A third college began operations the following year. The system began with approximately 1250 full-time students and 400 part-time students. By 1975, as shown in Figure I, enrollments are projected at 20,000 full-time students and 18,320 part-time students. This undertaking is estimated to require a public investment of $52,000,000 in land, physical plant, and equipment.

[Put Figure I here]

The racial composition of the full-time student body in this institution is expected to average 78 percent white and 22 percent non-white over the period analyzed. Moreover, it is estimated that 55 percent of the student body will be white male, 23 percent white female, 15 percent non-white male, and 7 percent non-white female. Freshmen are expected to account for 65 percent of the student body. The attrition rate for all reasons including academic failure, withdrawal for lack of funds, loss of interest, marriage, etc., is expected to average 50 percent of the entering class with 35 percent occurring during the first year. In the first years, it is anticipated that more of the graduates will transfer than will enter the job market. By 1975, however, it is expected that the number of graduates in career areas will equal transfers

to four-year institutions, although this is somewhat optimistic compared to national data. Of those who transfer, at least 80 percent are expected to complete baccalaureate studies.

It seems reasonable to assume that lack of financial resources will require persons from low income levels to work and allow no more than part-time college attendance. On this rationale, the part-time student body is expected to be composed of 50 percent white and 50 percent non-white. Within each group, 75 percent are expected to be male and 25 percent female. Only one-third of the adults who begin part-time studies are expected to complete the equivalent of one year's college work, and 10 percent of those who begin are expected to graduate. It is further assumed that those earning a degree will do so in a career program, although some graduating part-time students will transfer. The number of part-time students who complete a bachelor's degree is expected to be very small, and is therefore omitted from the present analysis.

II. The Economic Value of Higher Education

Studies of the economic value of higher education have been limited to four-year graduates or to dropouts who have completed one or two years of a four-year college. No national study has been reported on the two-year college graduate.

The most extensive study to date is Becker's [1]. Using an approach which adjusts earnings data of persons with varying amounts of education for other relevant differences, he calculated the private rate of return to be on the order of 10 to 13 percent. The rate is higher for urban white males and lowest for dropouts, non-whites,

women and rural persons. Becker also estimated an unadjusted social rate of return for white male graduates based on Denison's analysis of the contribution of education to the growth in national income. Difficulties in accurate measurement of the external effects of higher education led to his reporting a range, rather than a point estimate, for the social rate of return. The lower limit was estimated at 13 percent and the upper limit, given with less confidence, was about 25 percent. A study by Hansen evaluated the return on several increments of schooling, some of which terminated before a degree was granted [7]. He found the rate for two years of a four-year college program to be 5.4 percent, which ranked lowest of the seven blocks of schooling he evaluated. The study was conducted with a 1949 cohort, and predates the recent community college movement and the career orientation of its two-year programs.

A recent article by Carroll and Ihnen studies the return on one particular post-secondary two-year technical school [3]. They suggest that because this type of education is specialized and career-oriented, it may be more effective in developing human capital than four-year college programs which have broader objectives. The rate of return may be higher for technical schools than for four-year colleges. The authors were able to test the labor market performance of a small number of post-secondary technical school graduates against a control group of high school graduates with similar academic records who did not continue their schooling. The return on the additional two years of school was estimated at 16.5 percent. This last study is more relevant to our interests, but it should be noted that the Carroll-Ihnen work represents a small sample (a single institution), and one

that differs in many ways from the large, urban community college.

III. The Measurement of Costs and Benefits

It is important to emphasize at the outset that the present analysis is of a single representative two-year college, and not for all two-year institutions in the United States. Characteristics of the student body (e.g., race, sex, full-time vs. part-time), as well as growth in enrollment, attrition rates, and a number of graduates all reflect a combination of past and expected future trends for a single publicly supported institution in a large urban area. Data sources and calculations are summarized in the Appendix.

Beyond the matter of the size of each cohort is the estimate of the different time paths to be taken by each cohort. The differences are especially important in computing benefits. For example, annual earnings for an identical number of male and female graduates would diverge over time to reflect differences in labor market characteristics and in mortality rates. The sources of the rates used in this study are described in the Appendix; they are essentially national averages, and past trends are projected into the future without change.

Evaluation of the desirability of the investment will proceed along usual lines - estimates of costs and benefits flowing from the investment, and finally, calculation of the internal rate of return. We assume a twenty year investment, but neither the methodology nor the results will be seriously affected by an extension of the economic period. Thus, we solve for r in this equation:

$$0 = \sum_{a=1}^{m} \frac{(B-C)_a}{(1+r)^a}$$

Where B = Annual Benefits
C = Annual Costs, and,
r = Internal Rate of Return

TABLE 2 ANNUAL COSTS AND BENEFITS, TWO-YEAR COLLEGE, 20 YEAR INVESTMENT ($MILLIONS)

YEAR	TUITION	PRIVATE COSTS		PUBLIC COSTS		TOTAL COSTS	TOTAL BENEFITS	NET BENEFITS (TOTAL BENEFITS) TOTAL COSTS
		BOOKS, FEES MISC.	FOREGONE INCOME	OPERATING EXPENSES	FIXED ASSETS			
1	0.437	0.166	3.013	0.984	5.10	9.700	0	- 9.700
2	0.812	0.300	6.898	1.814	5.10	14.924	0	- 14.924
3	1.734	0.649	10.893	3.921	5.10	22.317	0.463	- 21.853
4	2.191	0.807	13.382	4.892	5.10	26.372	1.308	- 25.064
5	3.669	1.354	23.435	8.195	5.10	41.753	3.607	- 38.147
6	5.116	1.904	33.805	11.536	6.10	58.511	7.706	- 50.806
7	6.242	2.299	41.753	13.936	6.10	70.330	11.345	- 56.880
8	7.077	2.606	48.665	15.801	7.10	81.249	22.128	- 59.122
9	7.879	2.903	55.893	17.594	7.10	91.369	33.954	- 57.415
10	8.741	3.219	63.418	19.516	7.10	101.994	48.519	- 53.475
11	8.844	3.256	65.068	19.770	2.00	98.798	66.220	- 32.578
12	8.844	3.256	66.718	19.770	2.00	100.448	85.899	- 14.550
13	8.844	3.256	68.368	19.770	2.00	102.098	107.618	+ 5.520
14	8.844	3.256	70.018	19.770	2.00	103.748	121.895	18.148
15	8.844	3.256	71.668	19.770	2.00	105.398	156.989	57.590
16	8.844	3.256	73.318	19.770	2.00	107.048	184.872	77.829
17	8.844	3.256	74.968	19.770	2.00	108.698	214.995	106.297
18	8.844	3.256	76.618	19.770	2.00	110.348	247.396	137.048
19	8.844	3.256	78.268	19.770	2.00	111.998	282.125	170.127
20	8.844	3.256	79.918	19.770	2.00	113.648	319.244	205.595
21								358.802
22								388.470
23								440.554
24								462.322
25								486.193
26								510.064
27								533.934
28								557.805
29								581.676
30								605.564
31								629.427
32								653.288
33								677.159
34								701.030
35								724.901
36								747.018
37								768.005
38								788.247
39								805.614
40								819.971

NOTES:

(1) Cost estimates assume growth to 20,000 full-time and 18,320 part-time students by year 11.

(2) Estimate of "foregone income" is included in costs of full-time students only.

(3) Net and total benefits are identical after year 20.

We assume a 20-year period for costs, but a 40-year period for benefits, for reasons discussed later.

III.a. Cost Calculations

Cost projections reflect estimates of size of student body, the ratio of full to part-time students, and direct expenditures on tuition and supplies by students, and operating costs and plant and equipment from public funds. To these direct outlays must be added the foregone income of full-time students. These cost estimates are summarized in Table 2, and reflect assumptions about the growth rate of an institution beginning operations in Year 1. Cost projections are based on current relationships between student body size and educational costs. Further, the mix of public and private outlays is held constant.

[Put Table 2 here].

It might be useful to test the sensitivity of these relationships in later research. The important issue of how much of the total cost should be borne privately involves analyses of demand elasticity, possible price discrimination, and welfare considerations outside the scope of this paper. The same may be said of the production and cost functions for this particular form of educational institution.

Opportunity costs are easily the largest part of total costs, and an explanation of their calculation is in order. Total opportunity costs are the sum of the separate (and very different) costs of four categories of students - white, non-white, male, and female. Opportunity costs are a function of starting salaries of high school graduates, labor force participation rates, and employment rates. In addition, all salaries are subject to annual increases to reflect increased productivity.

All of these variables are highest for white males. We have reduced the cost by 25 percent, on the assumption that many of the full-time students have part-time jobs during the school year and full-time jobs during the summer [1, p.169].

III.b. Benefit Calculations

The private and social benefits of educational investment are well enough documented elsewhere. (See, for example, Weisbrod.) They include direct economic benefits, i.e., an improved position in the labor market, as well as external economic effects and benefits to future generations. Besides these several positive influences on income, there are some non-pecuniary benefits which are attributable to additional education.

Our approach will be to make a quantitative estimate of the most prominent economic benefit, i.e., the increase in expected lifetime earnings, imputable to graduation from a two-year college. For each of the four cohorts (male and female whites and male and female non-whites) we estimate the following relationship:

$$LY = f(\Delta SS, \Delta LFPR, \Delta ER, \Delta YR, \Delta LER)$$

where LY = Lifetime Earnings,

SS = Starting Salary

LFPR = Labor Force Participation Rate

ER = Employment Rate

YR = Annual Income Growth Rate

LER = Life Expectancy Rate

(See Appendix for data sources)

Within data limitations, the rates for any one cohort change several times during a lifetime. We have for data nonavailability

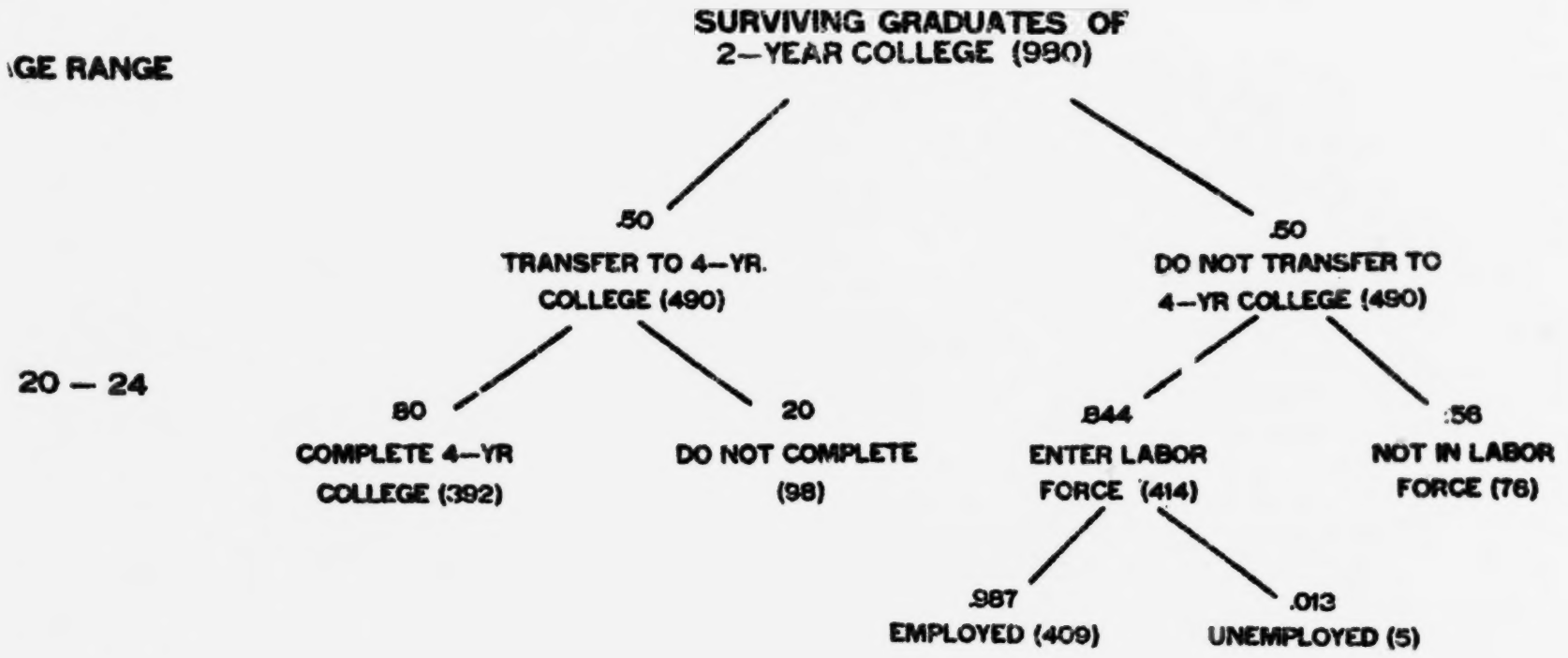


FIGURE 2

LIFE TIME EMPLOYMENT PATTERN, PER 1,000 WHITE, MALE GRADUATES OF TWO—YEAR COLLEGE

reasons omitted fringe benefits differentials, although these probably favor more highly educated workers.

Besides the four-way split required by different labor market expectations of our four cohorts, there are complications of varying degrees related to the academic success of the students. We can identify at least two important cases:

1. Student attrition. We have attributed zero benefits to all students who fail to graduate, even though there is probably some benefit to one or two terms of college work.

2. Transfer to four-year college. Estimates in this case are that one-half of the two-year college graduates will transfer to a baccalaureate program. Further, it has been estimated that 80 percent of the transfers will receive a bachelor's degree [8]. For the latter, we have imputed one half of their increased earnings as benefits related to the junior college. The 20 percent who transfer, but do not complete the four-year program, are treated as are other junior college graduates.

Benefits of course continue throughout the working life of the junior college graduate. We make the following assumptions with respect to working life:

a). Student enters junior college at age 19; no earnings while in college.

b). Student graduates at age 21; benefits begin then for those entering labor force directly; are postponed until age 23 for transfers to four-year colleges.

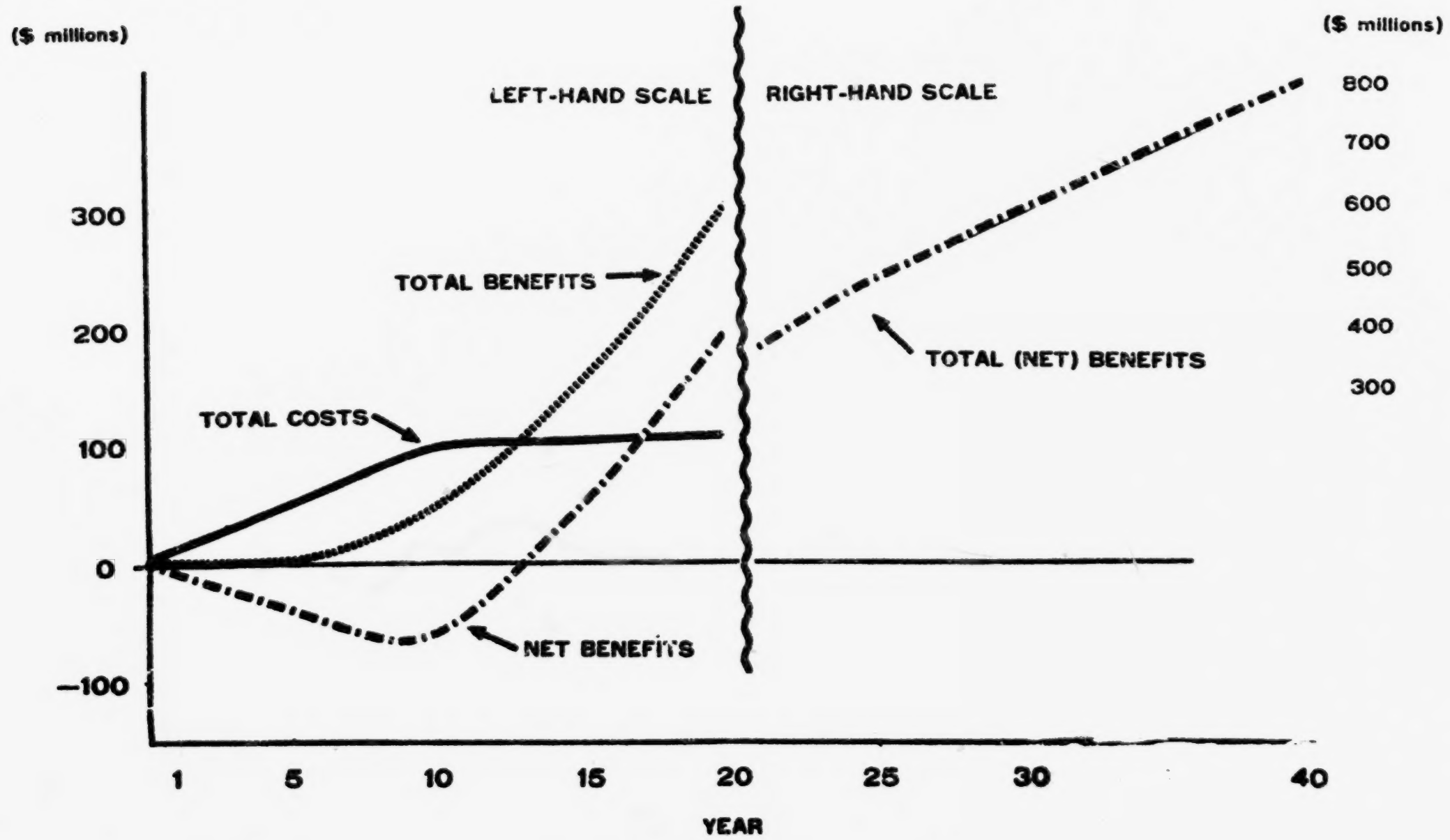
c). All labor force participation ends at age 65.

[Put Figure 2 here].

Figure 2 depicts an example of the method for calculating lifetime earnings of white male graduates of a two-year college. Though the methodology is approximately the same, 11 additional calculations of

FIGURE 3

TOTAL AND NET BENEFITS, AND TOTAL COSTS, YEARS 1—40



lifetime earnings were made for the possible combinations of white-non-white; male-female; and graduation from high school or two-year or four-year college. The numbers in parentheses are estimates of the portion of the original cohort of 1,000 persons within each category; the other numbers, not in parentheses, are flow percentages, e.g., between the ages of 55 and 64, 84.9 percent of the survivors will be in the labor force; 15.1 percent will not. The most important number in each age range is of employed members of the labor force, for benefits attach to this group only. When starting salaries and annual salary increase rates are introduced to the calculating procedure, it is possible to estimate lifetime earnings. As might be expected, the numbers differ, sometimes substantially, among the 12 cohorts. More information on the source of the various numbers is available in the Appendix.

3.c. The Pattern of Net Benefits

In principle, benefits continue some 40 years beyond the points where all costs (expense and capital) come to an end. We decided, however, to calculate benefits for just 20 years beyond the cessation of costs. Therefore, from year 1, costs will extend for 20 years and benefits for 40 years. The reason for not including expected benefits for the full lifetime of graduates in year 20 is a practical one - i.e., the present value of benefits in the very distant future is inconsequential. Figure 3 depicts the pattern of total benefits, total costs, and net benefits over a 40 year period.

[Put Figure 3 here].

Net benefits become positive in year 13, and grow rapidly until year 20. Beyond year 20, there are no costs, and total and net benefits

are identical. We see a large jump in net benefits from year 20 to 21, and a steady increase thereafter until year 40. The growth in total benefits reflects a divergence between total expected annual earnings of junior college graduates and of high school graduates, in favor of the former. The divergence reflects the more favorable starting salaries, employment rates, labor force participation rates, and income growth rates for the former.

Total benefits of $820 million in year 40 reflect the fact that there are no costs in that year. More importantly, by year 40, a very large number of two-year college graduates will be in the labor force and enjoying the benefits of additional income.

IV. Discussion of Results

Total costs exceed benefits during the first 12 years of the analysis. This is hardly surprising in this case, particularly in view of the large attrition among students, where no compensating benefits exist. However, even for successful students, marginal benefits come slowly but persist for a long time (until retirement).

The pattern of costs and benefits provides an internal rate of return of 18.0 percent. We regard this result as conservative because we have omitted a variety of other factors, which would make for an even greater benefit differential in favor of the junior college graduate. We have not imputed any earnings benefits to dropouts nor included any of the externalities or psychic benefits which could be expected to be substantially positive.

Ideally our analysis should have been based on a controlled experiment-one in which all possibly relevant factors (e.g. personality traits,

intelligence, access to the labor market, home environment, etc.) would have been identical for the entire sample, except that one part of the sample would have gone directly into the labor force upon high school graduation, and the remaining part to a junior college. Then we could trace benefit differentials for the full working lives of all members of the sample. Such an idealized approach would hardly provide assistance in evaluating the immediate pressures for growing investment in junior colleges.

But, it is not necessary to wait 50 years for progress towards an idealized model. Within the near future, it should be possible to obtain sample data on such factors as:

a. Labor market characteristics of graduates of two-year colleges - starting salaries, income growth, income supplements, employment rates, etc.

b. White and non-white labor market experience.

c. Male and female labor market experience.

d. Differences between transfer and non-transfer graduates or baccalaureate programs.

e. Forecasts of the pattern of wages and employment for each of the major occupations reflected in the junior college curriculum.

f. The probability of shifting to other occupations during a working life, as well as the economic characteristics of the other occupations.

We have resisted the temptation to examine tangential issues, on the assumptions that these issues are well recognized within the public benefit/cost analytical framework, and their quantitative effects are small, or at least in the right direction. One such issue, income

distribution, deserves a bit more attention here because of the special characteristics of the community college. Neither in the methods of financing nor in the flow of benefits is this kind of educational institution likely to exhibit neutral income distribution effects. Indeed, both the sources of financing and the socio-economic characteristics of the student body will differ appreciably from the four-year college. The two-year school is tied closer to local tax sources and a local labor market. Perhaps additional empirical research will investigate the income distribution effects of this type of higher education.

An economic evaluation of the two-year college depends largely on measurable characteristics of the labor market, and particularly on the incremental value of lifetime earnings which may be reasonably imputed to the additional education. But, a final estimate of the value of the two-year college should include certain qualitative factors as well. The two-year college is more closely identified with its community than is the university. The close identification reflects sources of financing, educational objectives, and a student body which are generally different from a university. The two-year college is supported mainly by the local community, attracts students from a limited geographical area, and concentrates on teaching, rather than research. Its student body is on the average from lower income families, contains a higher percentage of non-whites, has achieved less in high school, and carries greater academic risks in college.

The existence of these special characteristics of two-year colleges may lead to relatively larger secondary and external benefits than for

the four-year college. Consider the benefits that might accompany successful completion of the two-year program. A more favorable position in the labor market can lead to broader participation in the political process, fuller personal development and achievement, "neighborhood effects" - pervasive economic improvement in some parts of the community which previously lacked these managerial and technical skills, stronger social cohesion, higher probability of economic success by future generations of children of currently educated persons, and so forth. All of these factors are difficult to measure, but exist nevertheless, and probably to a greater degree than for the typical university student. We emphasize our concern that an evaluation process which is limited to income benefits may be particularly weak where human resource development of the two-year college type is concerned.

APPENDIX

Data Sources and Adjustments

The benchmark year is 1966; all data series begin then. In some cases, data were not available for 1966, and were adjusted to that benchmark year. It should be noted that 1966 was a full-employment year at the national level. All costs are assumed to stop in year 20 (1985), but benefits continue to year 40 (2005).

The several items used in calculating lifetime earnings were derived as follows:

1. Employment Rate (ER) [6, p.29]

The data are for March, 1967, and are disaggregated by race, color, and educational attainment. However, there is a single rate for those completing one or more years of college.

2. Labor Force Participation Rate (LFPR) [18]

The data are adjusted for females to reflect a positive correlation between educational attainment and LFPR. Ten percent is added to the high school rate for two-year college graduates; 25 percent to the high school rate for four-year college graduates. [12]

3. Life Expectancy Rate (LER) [15]

These are annual averages of age ranges 20-24; 25-54; and 55-64, based on 1960 life tables. A distinction is made by sex, but not by race.

4. Starting Annual Salaries (SS)

a. High School Graduates - Data are from a 1962 survey, adjusted to 1966 by annual growth rate factor [10]. Data are disaggregated for white males and females and non-white females; non-white males are estimated as midway between white males and females. The salary figures used here are a weighted average of ranges presented in original data [13,14].

b. Four Year College Graduates - Starting salaries are weighted averages of 1966 graduates, by major field of study. The two relevant data series, i.e., number of graduates by field, and starting salary by field, are not perfectly matched. [16, Table 108, p.87 and Table 139, p.117]. The number of graduates by field is disaggregated by sex only; the other series is not disaggregated at all. "Education" is the field of nearly one-half of females; their starting salary is derived from survey of large-city schools. [11]

APPENDIX: CON'T.

c. Two-Year College Graduates - Estimated as midway between high school and four-year college graduates, per cohort. Reasonableness of this estimate was checked against census data. [17]

5. Annual Growth in Income(YR) [10]

The data are based on longitudinal changes between 1950 and 1960, and are adjusted to 1966. Data are for males only, disaggregated by sex, and educational attainment; high school; one-three years of college; and four or more years of college.

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